

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE J		PAGE OF PAGES 1	
2. AMENDMENT/MODIFICATION NO. 0001		3. EFFECTIVE DATE 31-Aug-2001		4. REQUISITION/PURCHASE REQ. NO. W25PHS-1200-8937		5. PROJECT NO.(If applicable)	
6. ISSUED BY US ARMY ENGINEER DISTRICT, PHILADELPHIA WANAMAKER BUILDING 100 PENN SQUARE EAST PHILADELPHIA PA 19107-3390		CODE DACW61		7. ADMINISTERED BY (If other than item 6) CONTRACTING DIVISION POC: LINDA DOBBS WANAMAKER BUILDING 100 PENN SQUARE EAST PHILADELPHIA PA 19107-3390		CODE E5CTSLMD	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X		9A. AMENDMENT OF SOLICITATION NO. DACW61-01-R-0042	
				X		9B. DATED (SEE ITEM 11) 20-Aug-2001	
						10A. MOD. OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) See attached							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED 31-Aug-2001	

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

- 1) Contractors are hereby instructed to remove existing Section C from Solicitation No. DACW61-01-R-0042, pages C-1 through C-7 and replace them with the attached Section C, pages C-1 through C-8.
- 2) The proposal due date of 13 September 2001 remains unchanged.
- 3) NOTE: All offerors must indicate receipt of this amendment by one of the methods identified in BLOCK 11 of this document. Failure to acknowledge all amendments may be cause for rejection of the proposal.

SECTION C

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C455 DECK CRANES, GANTRIES AND HOISTS

A. Mission

The Army Corps of Engineers, Marine Design Center (MDC), is issuing this Request For Proposals (RFP) to procure and contract all services (Engineering and Design, Construction, Testing and Delivery) related to the acquisition of a new ladder hoist winch to be installed on the Dustpan Dredge HURLEY.

Specific information on the hoist, such as geometry and weight data, is imperative for the Government to adequately evaluate the design and to engineer the installation.

The existing Dredge Hurley dustpan dredging ladder system consists of two winches, each lifting the ladder a distance of 40 feet through a two-part hoist. The system, as originally designed, included a line speed feed back sensing and control system which was intended to synchronize the hoisting speed of the two winches to eliminate racking of the ladder structure. The synchronizing system never performed satisfactorily, and the winches are currently operating in a load equalization mode, as opposed to the hoist synchronization mode. By facilitating a single point pickup of the dustpan ladder on the Dredge HURLEY, the new hoist will eliminate racking and facilitate smoother free-fall lowering of the ladder with the drum brake. [“Free-fall lowering of the ladder with the drum brake” refers to our practice of releasing the clutch and using only the drum brake to control the rate of ladder descent.](#) In addition, replacement of the two-part hoist block with a single-part block will reduce recurring repairs on the blocks resulting from the accumulation of silt and debris.

[Layout drawings, details, etc of the existing system will not provided as part of this Solicitation.](#)

The Mission Area of the Dredge HURLEY is the Mississippi River in the Memphis District geographical area.

B. Ladder Hoist Winch

The Contractor shall provide and install a new ladder hoist winch. The new winch shall be rated for 48,100-lb. line pull at a line speed of 176 fpm when hoisting on the second layer of the drum. The winch shall be capable of lowering on the motor with the clutch engaged, and on the brake with the clutch disengaged. The winch and all winch-mounted equipment shall be suitable for installation in the weather.

The winch shall be driven by an AC variable speed motor through helical type reduction gears coupled to the motor by an all-steel geared flexible coupling having a service factor of at least 1.25. The gearing shall be rated for a service factor of 1.6. The drum will be supported by the gearbox output shaft and a pedestal bearing on the opposite side.

An electrically operated, spring-loaded, fail-safe, ~~drum-type~~ brake shall be mounted on ~~the opposite end of~~ the motor. The brake shall engage automatically when the motor is stopped or loses power. The requirement for mounting the motor brake on the opposite end of the motor was based on a standard configuration for a Sterns or Dings application. Improvements to this arrangement will be considered based on their technical merit. Proposals should explain the derived benefits of such

The winch shall be furnished complete with a welded steel bedplate ribbed and gusseted to withstand the loading requirements. All base bolting pads shall be machined for bolting to a flat surface and shall be suitable for bolting to a new foundation. The winch shall have lifting lugs for crane handling.

The winch drum shall have grooved lagging, have a minimum diameter of 24" and shall be sized to store 650 feet of 1-5/8" 6x37 IWRC non-twisting wire rope furnished by the Contractor. The drum shall be mounted on bronze bushings or roller type bearings (with an L10 life greater than 30,000 hours at full load) with grease fittings and fabricated from heavy wall pipe with heavily ribbed and gusseted plate flanges. A maximum drum width of 2'-6" is required for the fleeting arrangement. If a wider drum is required to accommodate the wire rope, a level wind mechanism shall be provided with the winch.

The amount of wire rope required on the drum for lowering the ladder from its stowed position is 650 feet. It does not account for the additional length necessary for rigging the 8-part hoist system. Approximately 300 additional feet of the 1-5/8" wire rope will be required for this rigging. Wire rope will not be supplied as part of this Solicitation. There is no restriction on the number of layers on the winch drum.

The distance between the winch drum and the first sheave is 47 feet. The allowable fleeting angle is 3° from drum flange to drum flange (1½° on either side of the winch drum center).

All gearing shall be hardened for durability and strength to meet the service requirements of the winch. All gear shafting shall be of high carbon or alloy steel. The gear case and gear case cover mating materials shall be machined to form an oil-tight seal without the use of a gasket other than a light coating of sealant at assembly. All gear case and gear case cover fabrication joints shall be continuous welded and oil-tight. All ~~bearing blocks shall be faced and~~ motor-mounting pads shall be machined.

The winch shall have proper lubrication for gears, pinions, bearings, etc. to satisfy all operating conditions for three-month intervals without external lubrication by the operator.

A hydraulically operated disc clutch shall be mounted on the drum shaft. The clutch shall be spring-loaded and upon loss of hydraulic pressure, the clutch shall automatically engage and remain so. Hydraulic pressure shall be applied to the clutch through a rotating union on the end of the shaft. The winch shall be provided with a winch drum caliper brake. When the drive train is de-clutched, the drum shall be free to turn under the control of only the winch drum caliper brake.

The winch drum caliper brake shall be hydraulically operated. It shall be spring-loaded and upon loss of hydraulic pressure the brake shall automatically engage. The brake shall be rated for 125% of the line pull of the winch and have a service factor of 1.5 ~~at 100 psi~~.

The controls for the winch shall be connected to a new hydraulic power pack to be installed by others. Hydraulic piping to the winch will be run by others under the main deck by the most direct route practicable. The HPU shall be suitably sized for the selected winch and shall be provided by the winch manufacturer. The HPU shall be capable of being started and stopped locally from the associated controller and remotely from the existing ICMS. Remote continuous indication of the status of the pump (operating or stopped) shall be provided via the existing ICMS.

C. Electric motor

All motors shall be NEMA or IEC type, suitable for marine application and sized and designed for continuous operation of the driven auxiliary at rated capacity. Motors shall be designed, constructed, and installed in accordance with ABS Rules; however, ABS certification is not required. All motors shall be equipped with anti-friction bearings. All motors using grease-lubricated bearings shall be provided with grease fittings and shall have positive means for preventing grease from being forced out upon the motor windings. It is expected that the motors will be provided with their driven auxiliary, and the purpose of identifying the motors by horsepower and voltage is to ensure that the motor is compatible with the power supply available.

All motors exposed to the weather shall have IP-56 (watertight or weather tight) protection. All motors shall have class "F" insulation with a class "B" temperature rise rating based on a 50° C ambient temperature

All motor circuits shall have motor feeder short-circuit and ground-fault protection, disconnect means, motor branch-circuit, short-circuit and ground fault protection, manual reset motor overload protection and integral start/stop push-button set.

The following motors shall be provided for the hoisting winch system:

- Hoisting winch motor: 250-kW (335-HP), 600-VAC, 1800-RPM, reversible, inverter duty suitable for variable speed operation with AC/AC drive from full reverse to full ahead. The closest standard rating motor should be provided. In this instance a 350 HP rating is acceptable. The 600 VAC refers to the bus voltage
- Hoisting winch hydraulic power unit: 15-HP, 480-VAC, 3-phase, 60-Hz.

Anti-condensation space heaters shall be provided for all motors. Motor space heaters shall generally be powered from the 120-VAC control power of the motor controller and shall be energized whenever the motor is secured and de-energized whenever the motor is operating. All space heaters shall be provided with an "ON"- "OFF"- "AUTO" selector switch and indicating light on the motor controller.

D. AC/AC Variable Speed Drives for Hoisting Winch

A variable speed, reversible electric drive shall be provided for the ladder hoisting winch motor. Power supply for the drive shall be 600-VAC, 3-phase, 60-Hz. It shall be able to continuously deliver required rated power to the hoisting winch motor, which shall be rated at no less than 250-kW (335-HP). The output of the drive shall be fully adjustable over the entire operating range of the winch motor being controlled. The drive shall be independent and separate from all other drives, and any fault in the drive shall not affect operational capabilities of any other drives. The drive shall be provided with all necessary control, detection, protection, instrumentation, input/output, diagnostics and any other functions required by the system. The drive shall also control operation of any ventilation blower associated with the winch motor, if required. A limitation on the size of the AC adjustable drive cabinets has not been established. However, a preference will be given to units that are compact.

The drives shall be of a 12-pulse or IGBT type and provided with class A net filters. They shall be microprocessor controlled and provided with digital control panels. They shall have an IP 23 protection, be self-ventilating and not require an external ventilation duct or separate power source for any internal blowers. Control power for the drive operation shall be provided from the drive's own power supply. The drives shall be ABS or LR type approved and rated for 50⁰ C ambient, including the drive controller.

The drive for the hoisting winch shall be suitable for operating in an overhauling mode. An overhauling mode is when power is applied to operate the winch in one direction but, due to the pull on the winch cable, the winch motor is revolving in the opposite direction. Regeneration can be to the 600 Volt bus.

The hoisting winch drive shall include provisions for the following remote indications and alarms:

- Drive Power Available
- Motor Current
- Motor Failure
- Motor Alarm
- Drive Failure

The variable frequency drive unit shall have a minimum degree of protection of IP20. It shall be self-ventilating and not require an external ventilation duct or separate power source to provide power to any internal blowers. The entire drive, including the drive controller, shall be rated at 50° C ambient temperature. Control power for the drive operation shall be provided from the 600-VAC drive power supply.

E. Hoisting Winch Controls

The new hoisting winch shall be controlled from a control panel in the Pilothouse and from another control panel positioned on the Main Deck on the exterior, starboard side of the forward Pump Room bulkhead in place visible from the new hoisting winch. The system shall be designed such that only one control station can be in control at a time. Transfer of control between the two control panels shall be from the Pilothouse panel and shall be possible only when the motor brake is applied (motor stopped) and the clutch is engaged. The controls shall not be transferred unless the following conditions are positively satisfied on the forwarding and the receiving stations: (a) Clutch Engaged button depressed, and (b) Motor speed control handle in zero position. Additionally, the controls shall not be transferred to the station on Main Deck unless the control power on that station is switched on. A control power (on/off) switch shall be provided on this station. The Contractor shall provide suitable engraved plate with instructions for transfer of controls at each control station.

To allow emergency handling of the ladder if the HPU becomes inoperable, the caliper brake and clutch system shall include a pressurized hydraulic receiver and a local manual pump installed adjacent to the HPU. The receiver shall be sized for one disengagement of the clutch and one controlled lowering of the ladder on the winch drum caliper brake, or for supporting one raising of the ladder from 75 ft. dredging depth, whichever results in a bigger receiver. Additionally, a service factor of 2 shall be applied when sizing the receiver. [For our 8-part system approximately 550 feet of wire rope will have to be paid out by the winch to lower the ladder.](#)

The system shall be capable of performing such emergency lowering and raising of the ladder without utilization of the local manual pump. Pressure shall be maintained automatically in the receiver and the receiver shall be provided with a local pressure gauge and a pressure switch for low-pressure alarm via the existing ICMS.

The pressurized hydraulic receiver and hand pump shall be connected to the winch hydraulic system such that on loss of ship's power the ladder can be lowered from the active control station, regardless of whether the active station is in the Pilothouse or on the Main Deck. This "emergency" system shall ensure that the clutch and brake remain in the position they had at a time of power loss, and shall also serve as an emergency means of lowering the ladder under brake control only.

The winch shall be provided with sensors for continuous indication of speed and direction of the wire via the existing ICMS. The winch manufacturer shall provide the sensors.

A dog shall be provided for locking the winch when not dredging.

Each control panel shall include suitable controls for winch speed and direction of rotation, drum brake controls and clutch controls. Indicator lights for station in control, AC/AC drive power on, motor brake engaged, and clutch engaged shall be also provided on each control panel. Additionally, each control station shall be provided with an alarm light and buzzer to indicate low pressure in the hydraulic receiver.

The new Pilothouse control panel shall be designed such that it fits in the space presently taken by the existing hoisting winch control panel. Operator interface on the panel shall be through handles, switches and indicators similar to those on the removed panel. Alternatively, the existing control panel with associated handles, switches and indicators may be retained, if they meet the specified requirements and are acceptable to the system manufacturer. [The existing control panel is 10" x 11"](#).

The new Main Deck control panel shall be suitable for bulkhead mounting and installation in weather. It shall have IP56 protection.

The winch control system shall be an independent system either hardwired or controlled by dedicated microprocessors. If a microprocessor controlled system is selected, two identical PLCs operating in parallel as hot standby to each other shall be provided.

The winch control system shall be powered through a new dedicated UPS sufficient for controlling the winch for 30 minutes without ship's power.

F. Foundation

The Contractor shall design, fabricate and install a suitable foundation for the winch. The winch foundation shall be such that the base of the winch is level with or above the working deck level above the main deck. The foundation of the winch shall be arranged such that it does not foul the hauling wire, either by remaining completely clear of the wire or by making provision for the hauling wire to pass through the foundation structure. Should the hauling wire pass through the foundation structure, the Contractor shall demonstrate to the satisfaction of the COR or his designated representative that the hauling wire will in no way come in contact with the foundation structure. Additionally, the contractor shall make positive provision that the hauling wire, if run through the foundation, will not chafe or wear on the foundation structure when the wire is being wound back slack. The contractor shall demonstrate to the satisfaction of the COR or his designated representative proper spooling of the hauling.

G. Spare Parts

The Contractor shall provide a spare set of hydraulic oil filters and fuses, as well as a recommended list of spare parts. The Government will procure spares from this list by issuing a contract modification.

H. Certified Prints

- Thirty days after contract award the Contractor shall provide a set of certified prints and specifications for the feeder circuit breaker and all power and control cabling.
- At Dock Trials the Contractor shall provide 3 sets of Operation and Maintenance Manuals for review and approval.

I. Technical Support

The Contractor shall provide a service representative at the shipyard in Memphis, TN for 3 man-days to integrate and startup the winch and controls, and 2 days to witness the Dock Trials.